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of level and temperature, are forms like *Lingula*, *Limulus* and *Amphioxus*, which live in shoal water and evince the wonderful vitality which is the assurance of their high antiquity. It was, moreover, useless to look for allies of the trilobites in the abysses of the sea, when it was already known that in *Limulus* we had a form as closely allied to the trilobites as one order of insects are to another.

Mr. Moseley's book is unpretentious, thoroughly interesting from the large number of novel views and facts, and will remain the best popular record of the voyage of the *Challenger*.

CLARKE'S DEVELOPMENT OF THE SALAMANDER.¹—The external changes undergone by one of our common salamanders are described and figured by Dr. Clarke in this interesting paper, which for the first time gives a connected account of the development of an American amphibian. The eggs of this common salamander are attached in bunches of from three or four to two hundred in a gelatinous mass to the stem of some aquatic plant or submerged leaves. After segmentation and the appearance of the medullary folds, with the groove between them, the folds close in, forming the neural tube. The body elongates, becomes ciliated and rotates horizontally upon its axis. The head is next marked off and the optic vesicles, branchial lobes and head-balancers appear; then the fore limbs begin to bud out, the heart soon pulsates, and then the nasal pits and mouth are indicated; the tail and dorsal fin grow rapidly and the branchial lobes are divided into three pairs of gills. The head, mouth and gills are elaborated, the digits on both pair of limbs appear, and by the hundredth day after segmentation begins, the gills are resorbed and the animal assumes the adult state.

PENNING'S TEXT BOOK OF FIELD GEOLOGY.²—The first edition of this valuable book appeared about a year ago and attracted considerable attention. The first edition contained 227 pages, while to this last edition about one hundred pages of new matter are added. The growing popularity of geological field excursions among the students of our higher schools and colleges, renders such hand books indispensable. The chapters on geological surveying, sections, lithology, &c., are handled in a practical manner, and are simple, clear and intelligible. The illustrations are also well chosen. Not the least important portion of this book is the section on palæontology, by Mr. Jukes-Browne. In it he shows very clearly the valuable aid of fossils in determining

¹ *The Development of Amblystoma punctatum Baird*. Part I. External. Extracted from Studies from the Biological Laboratory of the Johns Hopkins University, Vol. I., 1879.

² *A Text Book of Field Geology*. By W. HENRY PENNING, F.G.S. With a section on Palæontology. By A. J. JUKES-BROWNE, B.A., F.G.S. Second edition, 8vo, pp. 319. Geological map and twenty-nine wood-cuts. (London, Balliène, Lindall & Cox, 1879.

strata in the field, a subject which at the present day some otherwise excellent scientific men are attempting to depreciate.

A second work by the same authors on engineering geology will soon be published. It purports to be a practical guide in the interpretation of those geological phenomena by which engineering works, building materials and water supply are effected, and in the methods of surveying, by which such geological conditions are determined.

SKETCHES OF THE PHYSICAL GEOGRAPHY AND GEOLOGY OF NEBRASKA.¹—This is one of the most interesting and valuable books yet published on the scientific and practical resources of the State of Nebraska. Prof. Aughey has been for many years a most enthusiastic student of its geography and geology, until he has become the reliable authority all over the country. His paper on the Loess published in the Annual Report of the Geological Survey of the Territories for 1874, called out a very complimentary letter from Mr. James Geikie, of Scotland. In this book he has elaborated his former sketches on various subjects connected with the State, and presented them in a clear and graphic manner, which cannot but render them very attractive to the general reader. Although the first edition has been issued but a few months, already a second edition is called for. We congratulate Prof. Aughey on his well-deserved success.

ARCHIVES OF COMPARATIVE MEDICINE AND SURGERY.²—We note with interest the appearance of this new periodical. Its objects are divided between economic and pure science, so as to appeal to a larger constituency than if its scope were confined to either alone. We note various interesting statements of observations on the pathology and anatomy of the lower animals, especially of the Vertebrata. One of these, on the Island of Reil, we transfer to our notes. The *Archives* has a wide field, and, under its present able editor, we hope for its success.

TRAQUAIR ON PLATYSOMIDÆ.³—This memoir fills a hiatus in our knowledge of palæozoic fishes, in a very satisfactory manner. As defined by Dr. Traquair, the family *Platysomidæ* includes the genera *Eurynotus* Ag., *Benedenius* Traqu., *Mesolepis* Young, *Eury-somus* Young, *Wardichthys* Traqu., *Chirodus* McCoy, and *Platysomus* Agass. These genera are fully defined from internal and external characters, and are illustrated by good plates, which include several restorations. Dr. Traquair has been very successful in working out the osteology of these forms, and in discovering

¹ *Sketches of the Physical Geography and Geology of Nebraska*. By SAMUEL AUGHEY, Ph.D., LL.D.

² *Archives of Comparative Medicine and Surgery*; a Quarterly Journal of the Anatomy, Pathology and Therapeutics of the Lower Animals. Edited by EDWARD SPITZKA, M.D. New York, W. L. Hyde & Co., Printers.

³ On the Structure and Affinities of the *Platysomidæ*. By RAMSEY H. TRAQUAIR, M. D. From the Transactions of the Royal Society of Edinburgh, Vol. XXIX, 1879.